

Notice of Allowability

Application No.

10/510,704

Examiner

John S. Chu

Applicant(s)

HATANAKA ET AL.

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/12/05.
2. ☒ The allowed claim(s) is/are 1-5 and 7-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The claimed invention is drawn to the following;

1. A positive photosensitive resin composition comprising an alkali-soluble resin, a 1,2-quinone diazide compound, a crosslinking compound having at least two epoxy groups and a surfactant, wherein the above alkali-soluble resin is a copolymer comprising a carboxyl group-containing acrylic monomer, a hydroxyl group-containing acrylic monomer and an N-substituted maleimide as essential components.

Claims to a method are recited as follows:

Claim 17 (New): A method, comprising:

applying the positive photosensitive resin composition according to Claim 1 onto a substrate, then
imagewise exposing the substrate,
forming a first pattern, and
postbaking to form a second pattern having a semicircular or trapezoidal section.

The inventive step is the combination of the recited terpolymer having a carboxyl group, a hydroxyl group and an N-maleimide group in a mixture with a 1,2-quinone diazide compound and a crosslinking compound with two epoxy groups and its claim in a method. The closest prior art found include those listed in the previous Office action, such as JAREK et al, which recites a terpolymer having an N-maleimide, methacrylic acid and a methacrylamide or N-methoxymethacrylate. The reference lacks the recited crosslinking agent as claimed to an epoxy ingredient.

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Newly cited references to SUZUKI et al (6,797,450) teach radiation sensitive compositions for EL displays, however the reference lacks the directed teaching for the terpolymer as claimed used in a composition with an epoxy compound.

SCHULTZ et al (6,306,555) likewise disclose sporadically the monomer groups in the claimed terpolymer, however lack a directed teaching to use such a terpolymer having a carboxyl group, a hydroxyl group and an N-maleimide group in a composition with a quinone diazide compound the terpolymer.

Because none of the recited prior art references of record anticipate or render obvious the claimed invention, claims 1-5, and 7-19 are seen as allowable and passed to issue.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.


The fax phone number for the USPTO is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Chu
Primary Examiner, Group 1700

J.Chu
October 19, 2005